

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A combustion system for a gas turbine comprising:

a premixing chamber for air which is mixed with the fuel injected from a series of holes creating a main central flame which is formed in a flame tube, said premixing chamber is convergent towards a connection end with a combustion chamber comprising the flame tube; and

a series of pilot devices configured to premix the fuel gas and create a series of corresponding pilot flames suitable for stabilizing the main central flame itself, at the same time reducing the polluting emissions, each of the series of pilot devices includes a sub-pilot device configured to inject pilot fuel gas into the respective pilot device and produce diffusion flames for stabilizing the pilot flame.

2. (Previously Presented) The combustion system with low polluting emissions according to claim 1, wherein said flame tube comprises a tapered connection end to the air premixing chamber and in that said tapered end comprises a series of holes each housing a respective pilot device of the series of fuel gas premixing pilot devices.

3. (Previously Presented) The combustion system with low polluting emissions according to claim 1, wherein the holes of the series of holes are positioned at an equal distance along a circumference of the tapered end of the flame tube coaxial with its axis.

4. (Currently Amended) The combustion system with low polluting emissions according to claim 1, wherein ~~[[it]]~~the combustion system comprises a series of thermocouples outside the central body.

5. (Currently Amended) The combustion system with low polluting emissions according to claim 1, wherein ~~[[it]]~~the combustion system comprises a feeding duct of the fuel, which surrounds said central body.

6. (Previously Presented) The combustion system with low polluting emissions according to claim 1, wherein each pilot device of said series of pilot devices with premixing of the fuel gas comprises a premixing duct, a series of holes for the fuel gas inside the premixing duct and a unit comprising at least one shaped element so as to create turbulence in the air flow in order to obtain a homogenous mixture of air/fuel gas inside the premixing chamber itself.

7. (Previously Presented) The combustion system according to claim 6, wherein

said at least one shaped element comprises a series of shaped blades.

8. (Previously Presented) The combustion system according to claim 6, wherein said at least one shaped element comprises two series of shaped blades.

9. (Previously Presented) The combustion system according to claim 7, wherein each pilot device of the series of fuel gas premixing pilot devices comprises a duct for the fuel gas, situated in a central element inside the premixing chamber for stabilizing the flame of the pilot device itself, said duct is inside and coaxial to an annular duct for the fuel gas in turn connected to the series of holes.

10. (Previously Presented) The combustion system according to claim 9, wherein each pilot device of the series of fuel gas premixing pilot devices comprises two ducts inside the premixing duct for detecting the flow-rate of the fluid inside the pilot device itself and at least one thermocouple.

11. (Previously Presented) The combustion system according to claim 7, wherein each pilot device of the series of fuel gas premixing pilot devices comprises a mini-burner inside the premixing duct for stabilizing the flame of the pilot device itself.

12. (Previously Presented) The combustion system according to claim 10, wherein

the mini-burner comprises a series of holes for the air and characterized in that the mini-burner is connected to a duct for the fuel gas, inside and coaxial to an annular duct for the fuel gas, in turn connected to the series of holes.

13. (Previously Presented) The combustion system according to claim 8, wherein each pilot device of the series of fuel gas premixing pilot devices comprises a series of holes outside the premixing chamber for stabilizing the flame of the pilot device itself.

14. (Previously Presented) The combustion system according to claim 13, wherein each pilot device of the series of fuel gas premixing pilot devices comprises a duct connected to the series of external holes and a duct connected to the series of holes.

15. (Previously Presented) The combustion system according to claim 8, wherein each pilot device of the series of fuel gas premixing pilot devices comprises at least one thermocouple and two ducts inside the premixing duct.

Claims 16-17 (Cancelled).

18. (Previously Presented) The combustion system according to claim 11, wherein each pilot device of the series of fuel gas premixing pilot devices comprises at least one thermocouple and two ducts inside the premixing duct.